



FIBRE BOX ASSOCIATION®



## Participate in the 2023

# PRODUCTIVITY & WASTE SURVEY

### Compare Your Plant's Productivity, Waste and Starch Consumption Against Other Facilities in the Industry ...

The biennial Fibre Box Association (FBA) / Technical Association of the Pulp and Paper Industry (TAPPI) Corrugated Productivity and Waste Survey includes data for work centers / machines typically used in corrugated manufacturing plants, a breakdown of waste and a measure of starch consumption. The report categorizes the data, reported in both English and Metric units, into common factors such as specific work center, length of order, average size of product, etc., so that you can compare your plant to the others published, based on similar conditions. It also highlights the top performers, giving you some useful benchmarking data.

All data is confidential. All participants are assigned a random code with which to identify themselves in the final report. All results are listed anonymously.

All data submissions will be made online. Participation is free; however there will be a fee to receive the results. The final Productivity and Waste Survey will be published in the fall of 2023.

Thank you in advance for your participation.

Sincerely,

Peggy Lacy  
Director - Administration and Data Services  
Fibre Box Association

The attached sheets are for your use only.

All data **MUST** be submitted online at  
<http://www.fibrebox.org>

**DO NOT send these sheets to FBA.**  
**All data MUST be entered online.**

<b>Work Center Codes</b>		<b>Code</b>
Flexo Folder-Gluers	≤ 28 x 72" (≤ 710 x 1830mm)	FXA
	> 28 x 72" and ≤ 40 x 100" (> 710 x 1830mm and ≤ 1020 x 2540mm)	FXB
	> 40 x 100" and ≤ 50 x 135" (> 1020 x 2540mm and ≤ 1270 x 3430mm)	FXC
	> 50 x 135" and ≤ 75 x 170" (> 1270 x 3430mm and ≤ 1910 x 4320mm)	FXD
	> 75 x 170" (> 1910 x 4320mm)	FXE
Printer Slotters	≤ 40 x 100" (≤ 1020 x 2540mm)	PSB
	> 40 x 100" and ≤ 50 x 135" (> 1020 x 2540 mm and ≤ 1270 x 3430mm)	PSC
	> 50 x 135" and ≤ 75 x 170" (> 1270 x 3430mm and ≤ 1910 x 4320mm)	PSD
	> 75 x 170" (> 1910 x 4320mm)	PSE
Rotary Die Cutters	≤ 66 x 80" (≤ 1680 x 2030mm)	RDCA
	> 66 x 80" and ≤ 66 x 115" (> 1680 x 2030mm and ≤ 1680 x 2920mm)	RDCB
	> 66 x 115" (> 1680 x 2920mm)	RDCC
Flexo-Rotary Die Cutters	≤ 28 x 72" (≤ 710 x 1830mm)	DROA
	> 28 x 72" and ≤ 40 x 100" (> 710 x 1830mm and ≤ 1020 x 2540mm)	DROB
	> 40 x 100" and ≤ 50 x 135" (> 1020 x 2540mm and ≤ 1270 x 3430mm)	DROC
	> 50 x 135" and ≤ 75 x 170" (> 1270 x 3430mm and ≤ 1910 x 4320mm)	DROD
Miscellaneous Die Cutters	Autoplaten Die Cutters - All sizes	DCA
	Cylinder Die Cutter (e.g. Miehle)	DCC
	Jaw Press Die Cutter (e.g. Thomson)	DCJP
	Manual Die Cutter (e.g. Kirby)	DCM
Other Converting Machines	Cascaders	CAS
	Chain Slotters	CHS
	Curtain Coating	CRT
	Eccentric Slotter	ESL
	Folder Gluer	FGL
	Specialty Folder Gluer (e.g. AutoLocks)	FGS
	Folder Stitcher	FS
	Folder Taper	FT
	Label Laminating	LAM
	Partition Slotter	PAS
	Semi Automatic Gluing	SAG
	Semi Automatic Stitching	SAS
	Semi Automatic Taping	SAT
Slitter Scorer	SSC	
Box on Demand (e.g. Packsize)	BOD	

**Converting Productivity**

<p><b>Work Center Code</b> (Enter appropriated code from table of Work Center codes for each work center/machine.)</p>																		
<p><b>Number of Setups</b> (Enter the total number of Setups, including partial set-ups (slug changes, plate changes, color changes, etc.))</p>		<p><b>Flexo Folder-Gluers &amp; Printers</b></p>	<p><b>Die Cutters</b></p>															
<p><b>Production Quantity</b> (Enter the number of sheets fed into the machine. (On non-multiple-out Work Centers, sheets fed is equal to pieces produced.))</p>		<p><b>Number of Colors (Traditional Colors):</b></p>	<p><b>Number of Colors (Traditional Colors):</b></p>															
<p><b>Surface Area</b> (Enter the total surface area produced in square feet or meters. This is Production Quantity multiplied by the unit area (ft2 or m2) of each piece produced.)</p>		<p><b>UV Exists:</b></p>	<p><b>UV Exists:</b></p>															
<p><b>Machine Hours - Setup</b> (Enter the total hours Work Center was not operating while crews changed-over between successive runs)</p>		<p><b>Manual Setup:</b></p>	<p><b>Manual Stacker Exists:</b></p>															
<p><b>Machine Hours - Run</b> (Enter the total hours Work Center was operating, producing product. (Exclude Set-up and Down Hours)</p>		<p><b>Motorized Setup:</b></p>	<p><b>Upstacker Exists:</b></p>															
<p><b>Machine Hours - Down</b> (These are downtime hours related to any occurrence of downtime except scheduled preventative maintenance (PM) and weekend cleanup (EOWCU). Downtime is recorded after a machine is down for three minutes or more. (Excludes converting equipment set-up time)</p>		<p><b>Computerized Setup:</b></p>	<p><b>Downstacker Exists:</b></p>															
<p><b>Man Hours</b> (Enter the total Man Hours worked during the survey month for each Work Center. This is the total of Machine Hours (Setup + Run + Down) multiplied by the "average crew size." (If average crew size varies, it may not be a whole number)</p>		<p><b>Prefeeder Exists:</b></p>	<p><b>Prefeeder Exists:</b></p>															
<p><b>Total Number of Defective Units</b></p>		<p><b>Lead Edge Feeder Exists:</b></p>	<p><b>Lead Edge Feeder Exists:</b></p>															
<p><b>Box on Demand Production</b> (e.g. Packsize) - Enter MSF</p>		<p><b>Load Former Exists:</b></p>	<p><b>Load Former Exists:</b></p>															
		<p><b>Sauer Type Diecut Exists:</b></p>																
		<p><b>Rotary Diecut Exists:</b></p>																
		<p><b>* If there is any presence of digital printing in the converting process, please complete for work center codes FX*, PS* and OCM*. Please account for all digital printing.</b></p>																
		<p><b>Digital Printing - Total (Enter MSF)</b></p>	<p><b>MSF</b></p> <table border="1"> <tr> <td></td> <td>1 Sided</td> <td>2 Sided</td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> </tr> </table>		1 Sided	2 Sided												
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		<p><b>Single Side/Pass (Enter MSF)</b></p>																
		<p><b>2 Pass (Enter MSF)</b></p>																
		<p><b>Preprint (Enter MSF)</b></p>																
		<p><b>What type of machine is used for digital printing (e.g. HP Page Wide C500 Press or a converting machine)</b></p>																

## Corrugator Productivity

**Corrugator Size** (Enter the size of your Corrugator)

<p>&lt;78" (&lt;1980mm)</p>		<p>&gt; 90" and ≤ 100" (&gt; 2280mm and ≤ 2540mm)</p>	
<p>&gt; 78" and ≤ 90" (&gt; 1980mm and ≤ 2280mm)</p>		<p>&gt; 100" (&gt; 2540mm)</p>	
<b>Number of Manual Take-offs</b>		<b>Wet End Setups</b> (These are flute, width and/or grade changes)	
<b>Number of Upstackers</b>		<b>Slitter Turnovers</b> (This is the number of slitter changes at the dry end of the machine)	
<b>Number of Downstackers</b>		<b>Production Lineal</b> (This is the quantity of corrugated produced at the dry end of the machine for each flute type, and the total in feet or meters. If the plant has more than one corrugator, show each corrugator separately.)	
<b>Number of Cutoffs</b>		<b>Production Area</b> (This is roll stock width multiplied by "Corrugator Production Lineal" - to yield square feet or square meters.)	
<b>Automatic Slitter Exists</b>	Y/N	<b>Man Hours</b> (Hours at the corrugator for all members of the crew. (Includes production time, daily downtime/cleanup time))	
<b>Continuous Run</b>	Y/N	<b>Productive Machine Hours</b> (This is the run time plus setup time, i.e. elapsed clock hours)	
<b>Direct Drive Cut-off Knives Exist</b>	Y/N	<b>Downtime Machine Hours</b> (These are the downtime hours related to any occurrence of downtime except schedule preventative maintenance (PM) and weekend cleanup (EOWCU). Downtime is recorded after a machine is down for three or more minutes. (Excludes converting equipment set-up time)	
<b>Preprint Exists</b>	Y/N		
<b>Wax Impregnation Exists</b>	Y/N		
<b>Coat or Tint-in-Line Exists</b>	Y/N		
<b>Tear-Tape or String Exists</b>	Y/N		
<b>Digital Printing on the Corrugator</b> (Enter MSF) (e.g. T1100S Press)			

## Waste & Starch

**Total Roll Stock Consumed**

**Total Corrugator Production**

Complete 1 column only! (Either the weight of waste produced, the combined board area of waste produced, or the waste produced as % of roll stock consumed)

	Weight (lb or kg)	Area (ft2 or m2)	%
<b>Total Waste Produced</b> (Baled & miscellaneous waste - includes dumped waste, rejects, seconds, overruns, waste used as outgoing dunnage, customer paid waste, etc.)			
<b>Customer Paid Waste</b> (Slots, glue/stitch tab waste, end trim, die cut perimeter trim and internal waste, flap cut waste, corner cut waste, etc.) - DO NOT include waste from Box on Demand type equipment (see below)			
<b>Total Box on Demand Waste</b> (e.g. Packsize)			
<b>Total Controllable Waste</b> (Total waste produced less customer paid waste, or sheet plus side trim plus wet end waste)			
<b>Total Sheet Waste</b> (Sheet waste at the dry end of the Corrugator plus sheet waste produced in set ups and production misfeeds on all downstream converting machines)			
<b>Total Corrugator Side Trim Waste</b> (Waste produced due to trimming of rollstock width through the Corrugator)			
<b>Total Corrugator Wet End Waste</b> (Roll stock consumed less gross Corrugator production - includes transport waste, warehouse waste, peel waste, core waste, splice and bridge waste, etc.)			

**Total Starch Consumed** (lb or kg - includes waterproof resins and miscellaneous chemicals)

**Starch Equivalent Production** (ft2 or m2 - Corrugator production: 1/2 x single face + singlewall + 2x doublewall + 3x triplewall)

**Total Plant Man Hours** (Direct and indirect manufacturing man-hours used, including temporary help. (Excludes local and over-the-road truck drivers, capital projects, office and clerical - should include maintenance))


## ***Productivity and Waste Survey: Instructions for Providing Data***

- Use production and waste data for the month of **May 2023**.
- Using a web browser, navigate to <http://www.fibrebox.org/>
- Providing data will require you to either logon or signup, create plants, and enter data for each plant online. Details on how to accomplish these tasks are detailed below as:
  - Logon
  - Signup
  - Survey Main Page
  - Managing Plant Data
  - Converting Productivity Data
  - Corrugator Productivity Data
  - Waste & Starch Data
  - Managing Contacts

### ***Logon***

1. From the logon page enter your e-mail address and password you used during signup.
2. After clicking the Logon button you will be transferred to the survey main page.

### ***Signup***

1. From the logon page click the Signup button.
2. Provide your contact information including e-mail address and password details.
3. Select your company from the presented list. If your company does not exist you can add it by clicking the Add Company button.
  - A. If adding a company, you will be presented with a form to provide a company name and address.
  - B. Upon saving this information you will be sent back to the contact signup page to continue the signup process.
4. Provide your address information.
5. Click the Save button and you will be transferred to the survey main page.

## **Survey Main Page**

1. The survey page allows you to manage Plant Details
  - A. Create a Plant
  - B. Edit a Plant
  - C. Delete a Plant

Clicking any of the links indicated below for 1A, 1B, or 1C will transfer you to the Plant Detail page to allow you to create, edit, or delete plant information.

*Note that you will only be able to view and work with data that you either created or are the primary contact of.*

2. The survey page allows you to manage Contact Details
  - A. Create a Contact
  - B. Edit a Contact
  - C. Delete a Contact

Clicking any of the links indicated below for 2A, 2B, or 2C will transfer you to the Contact Detail page to allow you to create, edit, or delete contact information.

*Note that you will only be able to view and work with data that you either created or are the primary contact of.*

## **Managing Plant Data**


1. Enter Plant Details into the provided form.
2. After providing Converting Productivity, Corrugator Productivity, and Waste & Starch data you will be able to view summary reports by clicking on their associated tabs.
3. Provide Converting Productivity data click by clicking on its associated button.
4. Provide Corrugator Productivity data click by clicking on its associated button.
5. Provide Waste & Starch data click by clicking on its associated button.

## **Converting Productivity Data**

### **Basic Operations**

1. Use the Add button to create converting productivity information or
2. Click on View or the work center code to edit previously provided information.
3. Click on Delete to delete existing data.

### **Converting Detail**


1. Upon selecting a Work Center Code, the page will refresh providing data entry options that are only appropriate to the selected work center.
2. Enter work center specific information into provided fields. Place your cursor over the information  icon for tips on what is expected.
3. When you are finished, click on the Add or Save button to save the data being provided.
4. Take a moment to review the Report page which will show you calculated values based on those provided.

## ***Corrugator Productivity Data***


### **Basic Operations**

1. Use the Add button to create corrugator productivity information or
2. Click on View or the Corrugator Size to edit previously provided information.
3. Click on Delete to delete existing data.

### **Corrugator Detail**

1. Select Corrugator Size and enter other information into provided fields. Place your cursor over the information  icon for tips on what is expected.
2. When you are finished, click on the Add or Save button to save the data being provided.
3. Take a moment to review the Report page which will show you calculated values based on those provided.

### ***Waste & Starch Data***

1. Enter waste & starch information into provided fields. Place your cursor over the information  icon for tips on what is expected.
2. When you are finished, click on the Save button to save the data being provided.
3. Take a moment to review the Report page which will show you calculated values based on those provided.